

# PATENT COOPERATION TREATY

# PCT

REC'D 19 APR 2005

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

|                                                                                                     |                                                                                                                               |                                              |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Applicant's or agent's file reference<br>A4-206PCT                                                  | <b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |                                              |
| International application No.<br>PCT/US2005/002156                                                  | International filing date (day/month/year)<br>24.01.2005                                                                      | Priority date (day/month/year)<br>26.01.2004 |
| International Patent Classification (IPC) or both national classification and IPC<br>INV. G06K13/08 |                                                                                                                               |                                              |
| Applicant<br>MOLEX INCORPORATED ET AL.                                                              |                                                                                                                               |                                              |

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

|                                                                                                                                                                                                                                                                                                                                   |                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Date of submission of the demand<br><br>25.08.2005                                                                                                                                                                                                                                                                                | Date of completion of this report<br><br>20.04.2006                         |
| Name and mailing address of the international preliminary examining authority:<br><br> European Patent Office - P.B. 5818 Patentlaan 2<br>NL-2280 HV Rijswijk - Pays Bas<br>Tel. +31 70 340 - 2040 Tx: 31 651 epo nl<br>Fax: +31 70 340 - 3016 | Authorized Officer<br><br>Chiarizia, S<br><br>Telephone No. +31 70 340-3771 |



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/US2005/002156

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*):

**Description, Pages**

1-10 as originally filed

**Claims, Numbers**

1-14 as amended (together with any statement) under Art. 19 PCT

**Drawings, Sheets**

1/10-10/10 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

|                               |             |      |
|-------------------------------|-------------|------|
| Novelty (N)                   | Yes: Claims | 1-14 |
|                               | No: Claims  |      |
| Inventive step (IS)           | Yes: Claims |      |
|                               | No: Claims  | 1-14 |
| Industrial applicability (IA) | Yes: Claims | 1-14 |
|                               | No: Claims  |      |

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following document:

D1: US-A-2001/0008812

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not inventive in the sense of Article 33(3) PCT.

The document D1 discloses (see par. 0072-0073 and 0082, fig 23-24, the references in parentheses applying to this document):

a memory card connector comprising :

- and insulative housing (1) having terminal-mounting section (1a) which mounts a plurality of conductive terminals (2a) having contact portions for engaging appropriate contacts on a memory card (3a) and which at least in part defines a card-receiving cavity for receiving the memory card;
- a card eject mechanism including a slider (7) movably mounted on the housing and engageable with the memory card for movement therewith into and out of the cavity between an inserted connection position and a withdrawal position;
- a slide lock member (6) mounted on the connector, independent of the eject mechanism and engageable with the slider to hold the slider in said inserted connection position; and
- an ejection control member (10) mounted on the connector for releasing the slide lock member from engagement with the slider to allow the slider and memory card to be ejected.
- a metal shell mounted on the housing and combining therewith to define said cavity having a front insertion opening to permit insertion and withdrawal of the memory card into and out of the connector, said slide lock member being on the metal shell.

Therefore the difference between D1 and claim 1 lies in the fact that the slide lock member is integral with the metal shell.

However, the problem to be solved by the invention is clearly and only directed to provide a system wherein it is not necessary for the card to be exposed at the rear of the

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/US2005/002156

connector in order to effect ejection of the card therefrom (page 2, lines 29-32).

There is no indication of any problem related to the space saving. Moreover this problem cannot be considered as being implicit from the description

Therefore, the difference stated here above, which does not contribute to the solution of the problem as stated in the description, cannot be considered as involving an inventive step.

The same objection applies to independent claim 9.

## CLAIMS

1. A memory card connector (34), comprising:

an insulative housing (36) having a terminal-mounting section (36a) which mounts a plurality of conductive terminals (44) having contact portions (44a) for engaging appropriate contacts on a memory card (60) and which at least in part defines a card-receiving cavity (40) for receiving the memory card;

a card eject mechanism (46) including a slider (50) movably mounted on the housing and engageable with the memory card for movement therewith into and out of the cavity between an inserted connection position and a withdrawal position;

a slide lock member (52) mounted on the connector, independent of the eject mechanism, and engageable with the slider to hold the slider in said inserted connection position;

an ejection control member (54) mounted on the connector for releasing the slide lock member from engagement with the slider to allow the slider and memory card to be ejected;

a metal shell (38) mounted on the housing (36) and combining therewith to define said cavity (40) having a front insertion opening (42) to permit insertion and withdrawal of the memory card into and out of the connector, said slide lock member (52) being on the metal shell;

the slide lock member (52) comprising a cantilevered spring arm integral with the metal shell (38) and moveable in a direction perpendicular to a plane of the card receiving cavity (40).

2. The memory card connector of claim 1 wherein said terminal-mounting section (36a) of the housing (36) is a rear section and including at least one side wall section (36b) of the housing extending forwardly from one end of the rear section, said card eject mechanism (46) and said ejection control member (54) being on said side wall section.

3. The memory card connector of claim 1 wherein said card eject mechanism (46), said slide lock member (52) and said ejection control member (54) form a push/push mechanism, whereby a first push on the memory card (60) moves the memory card and slider (50) to said inserted connection position, the slide lock member being located to hold the slider at said position, and a second push on the ejection control member (54) releases the

slide lock member from engagement with the slider to allow the slider and memory card to be ejected.

4. The memory card connector of claim 1 wherein said shell (38) is stamped and formed from sheet metal material and the slide lock member (52) is stamped and formed therefrom.

5. The memory card connector of claim 1 wherein said slide lock member comprises a spring arm (52) having a lock portion (52c) engageable with a lock shoulder (50d) on the slider (50) automatically as the slider and memory card (60) are moved to said inserted connection position.

6. The memory card connector of claim 1 wherein said ejection control member (54) is mounted alongside the card eject mechanism (46) for movement generally parallel to the movement of the slider (60).

7. The memory card connector of claim 1 wherein said ejection control member (54) includes a manually engageable portion (54e) outside the housing (36).

8. The memory card connector of claim 7, including biasing means (64) for biasing the ejection control member (54) to a retracted inoperative position.

9. A memory card connector (34), comprising:  
an insulative housing (36) having a rear terminal-mounting section (36a) which mounts a plurality of conductive terminals (44) having contact portions (44a) for engaging appropriate contacts on a memory card (60), and at least one side wall section (36b) extending forwardly from one end of the rear section;  
a metal shell (38) mounted on the housing and combining therewith to define a card-receiving cavity (40) having a front insertion opening (42) to permit insertion and withdrawal of the memory card;  
a card eject mechanism (46) including a slider (50) movably mounted on the side wall section of the housing and engageable with the memory card for movement therewith into

and out of the cavity between an inserted connection position and a withdrawal position;

a slide lock member (52) integral with the metal shell comprising a cantilevered spring arm moveable in a direction perpendicular to the plane of the card receiving cavity (40) and engageable with the slider to hold the slider in said inserted connection position; and

an ejection control member (54) mounted along the side wall section of the housing for releasing the slide lock member from engagement with the slider to allow the slider and memory card to be ejected;

whereby the connector becomes a push/push type connector, with a first push of the memory card (60) and the slider (50) moves the memory card to said inserted connection position and a second push of the ejection control member (54) moves the slide lock member (52) out of engagement with the slider.

10. The memory card connector of claim 12 wherein said shell (38) is stamped and formed from sheet metal material and the slide lock member (52) is stamped and formed therefrom.

11. The memory card connector of claim 9 wherein said cantilevered spring arm (52) has a lock portion (52c) engageable with a lock shoulder (50d) on the slider (50) automatically as the slider and memory card (60) are moved to said inserted connection position.

12. The memory card connector of claim 9 wherein said ejection control member (54) is mounted alongside the card eject mechanism (46) for movement generally parallel to the movement of the slider (60).

13. The memory card connector of claim 12 wherein said ejection control member (54) includes a manually engageable portion (54e) outside the housing (36).

14. The memory card connector of claim 13, including biasing means (64) for biasing the ejection control member (54) to a retracted inoperative position.